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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,438	06/06/2006	Jochen Freytag	4791-4013	1664
27123	7590	07/10/2007		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER WILSON, GREGORY A	
			ART UNIT	PAPER NUMBER
			3749	
			MAIL DATE	DELIVERY MODE
			07/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,438	Applicant(s) FREYTAG ET AL.	
	Examiner Gregory A. Wilson	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12 and 18-23 is/are rejected.
- 7) ☒ Claim(s) 8 and 13-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/22/05 & 11/10/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

The disclosure is objected to because of the following informalities: On page 12, line 17, change "not precipitated" to --unprecipitated--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6, 9, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 6 and 9, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 12, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9-12, and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hiltunen et al (5,505,907) in view of any one of Beisswenger et al (4,817,563), Reh et al (4,080,437), or Schmidt et al (4,402,754)**. Hiltunen et al discloses the applicants primary inventive concept including a method and apparatus for cooling hot gas in a reactor which includes the conveyance of fine-grained solids (solid particles) where gas (48) is introduced from below through a gas supply tube (16) which extends vertically upwards from the lower region of the reactor (and is centrally disposed) into a mixing chamber (22) of a reactor (10) (ie: the upper region), the gas tube is surrounded by a stationary annular fluidized bed (12) (Figure 1) which is fluidized by supplying fluidizing gas through nozzles (52) which forms a gas distributor chamber (claim 22) connected to a supply conduit (unnumbered) which leads to the annular fluidized bed chamber by way of the nozzles (52) (claim 23), with regard to claim 5, Hiltunen et al discloses in column 6, line 23-43) that it is possible to arrange the bed height of the solids such that it extends beyond the top edge of the supply tube (16), with regard to claim 6, the hot gas is mixed with cooled solid particles flowing as an overflow (column 4, lines 39-44) and lines 54-61), with regard to claim 7, the gas is partially cooled by the cooling surface of the walls, with regard to claim 9, air is regarded

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as the cooling medium, with regard to claim 10, solids are heated in the reactor (column 4, lines 44-45), with regard to claim 11, it is regarded as being very well known in the art that fluidized solids contain materials of some metal oxide or ores and is not considered a patentable limitation, with regard to claim 12, column 4, lines 39-41 discloses that hot gas is above 400 degrees C and typically about 1000-1300 degrees C, with regards to claim 21, a cyclone separator (28) is provided downstream of the reactor and functions to separate the solids from the gas flow. The adjustment of fluidization is controlled **for example** by arranged separated controllable zones as discussed in column 6, lines 23-30) as opposed to the applicants claimed subject matter of a particle Froude number as specified. Beisswenger et al, Reh et al, and Schmidt et al all teach that it is well known in the art to define the operating conditions of a fluidized bed by using Froude numbers. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the adjustment of fluidization of Hiltunun et al by instead using Froude numbers as taught by any one of Beisswenger et al, Reh et al, and Schmidt et al for the purpose of ensuring effective and gentle transport of solids in a reactor.

Allowable Subject Matter

Claims 8 and 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hirsch et al (5,205,350) also discloses a process where solid particles are conveyed and fluidized in a bed reactor.

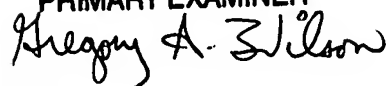
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571)272-4882. The examiner can normally be reached on 7 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GREGORY WILSON
PRIMARY EXAMINER



Gaw

June 27, 2007